ORIGINAL

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules to Establish Rules and Policies Pertaining To a Non-Voice, Non-Geostationary Mobile-Satellite Service	)	CC Docket No. 92-76

To: The Commission

REPLY COMMENTS OF STARSYS GLOBAL POSITIONING, INC.

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SUMMARY

In these Reply Comments, STARSYS Global Positioning, Inc. ("STARSYS") responds to the parties that commented upon the Commission's Notice of Proposed Rule Making in Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Non-Voice, Non-Geostationary Mobile-Satellite Service, FCC 93-28 (released February 10, 1993) ("NPRM"). Because the commenters, including STARSYS, overwhelmingly support the proposals advanced in the NPRM, and only a few relatively minor issues remain outstanding, the Commission should act expeditiously to conclude this proceeding and grant a license in the new Non-Voice, Non-Geostationary Mobile-Satellite Service ("NVNG MSS") to STARSYS.

Addressing the issues raised by the other commenters, STARSYS first urges the Commission to reject the call of Orbital Communications Corporation ("Orbcomm") for a spectrum efficiency standard. The Below 1 Ghz Negotiated Rulemaking Committee studied the issue and was unable to agree even on how objectively to measure efficiency, much less on how to regulate it. STARSYS agrees with the Commission that in order for the nascent NVNG MSS service to have an opportunity to develop, licensees must have the flexibility to craft innovative service proposals. A rigid standard of the type advocated by Orbcomm would unnecessarily stifle this flexibility.

STARSYS has no objection to the modification to the Commission's financial qualifications standard that Volunteers in Technical Assistance ("VITA") proposes for applicants that would operate five or fewer satellites. As for VITA's proposal to allow applicants to propose a "range of satellites," STARSYS generally

believes this is a good idea, and one that would provide additional flexibility to NVNG MSS licensees as they develop the new service. STARSYS suggests, however, that coordination with other NVNG MSS systems and with government users should be based on the maximum number of satellites in the range, and that financial qualifications should be established on the basis of the cost of constructing, launching, and operating two satellites if the maximum number of spacecraft exceeds five. By contrast, the milestone schedule should be based on the minimum number of satellites authorized.

As for comments made by Leo One Corporation and dbx Corporation, STARSYS disagrees that any modifications to the rules proposed in the NPRM are necessary to preserve opportunities for future NVNG MSS entrants. The Commission tentatively concluded that sufficient spectrum is currently available to accommodate the pending NVNG MSS applicants, and that future applicants may be able to be accommodated either in the spectrum currently proposed for assignment, in spectrum allocated to the NVNG MSS but not yet proposed or available for use, or in spectrum to be allocated in the service in the future. Thus, sufficient opportunities for multiple entry and the establishment of competition are provided in the current proposals.

Finally, STARSYS urges the Commission not to require NVNG MSS systems to incorporate features to meet safety requirements. Licensees should have flexibility to design systems to meet their customers' needs. At this time, it is also unadvisable for the Commission to address the question of U.S. access to foreign NVNG MSS systems. This matter should be decided on a case-by-case basis with reference to specific proposals.

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STARSYS Global Positioning, Inc. ("STARSYS"), by its attorneys and pursuant to Section 1.415 of the Commission's

I. INTRODUCTION

STARSYS, VITA, and Orbcomm, the three original petitioners for rule making whose proposals led to the establishment of last year's Below 1 Ghz LEO Negotiated Rulemaking Committee (the "Negotiated Rulemaking Committee" or the "Committee"), enthusiastically supported the NPRM. Each, however, also raised several fine-tuning matters that it would like the Commission to consider in formulating the final rules. See STARSYS Comments at 3-12; VITA Comments at 1-4; Orbcomm Comments at 14-20. STARSYS agrees with some of the suggestions made by VITA and Orbcomm, and disagrees with others. Its reasons are presented below.

The other four commenters also express support for the proposals advanced in the NPRM. Each, however, raises a single issue that is dear to it. Thus, ICSAR appears to urge the Commission to modify the rules to require NVNG MSS providers to specify how they will locate and route distress messages and accommodate search and rescue response capabilities. ICSAR Comments at 3. Leo One and dbx ask the Commission to modify the proposed rules to ensure that spectrum remains available for future NVNG MSS system applicants. Leo One Comments at 4; dbx Comments at 6. Finally, STSI urges the Commission to amend the rules to specify that foreign NVNG MSS system operators have the same access to the U.S. market as U.S. NVNG MSS systems will have

to foreign markets. STSI Comments at 1. STARSYS addresses these matters below as well.[2/]

II. DISCUSSION

A. The Commission Should Affirm Its Tentative Decision Not To Impose A Spectrum Efficiency Standard At This Early Stage In The Development Of The NVNG MSS Service.

In its comments, Orbcomm disagrees with what it terms "the [Commission's] failure to incorporate criteria to ensure that the spectrum is fully utilized." Orbcomm Comments at 14, 15-20. Noting the existence of efficiency standards in other satellite services, the inapplicability of those standards to nongeostationary systems, and that an efficiency standard "may prove onerous in particular circumstances, given the untried nature of the [NVNG MSS] service[,]" Orbcomm nevertheless advocates that the Commission embrace a standard that mandates that a system design provide coverage of the United States for a specified percentage of time. Id. at 16, 17-18.[3/]

[2/] As an initial matter, and in view of the fact that the NVNG MSS service is inherently interstate (and indeed inherently global) in nature, the Commission should affirmatively state, for future reference, that the regulations and policies it is adopting for the NVNG MSS in this proceeding are intended to supersede and preempt any state regulations in the field.

[3/] As a fall back position, Orbcomm urges the Commission to require that applicants include "a spectrum utilization demonstration" in their applications in order to permit the Commission to "evaluate the relative efficiency of the proposals." Orbcomm Comments at 20. Orbcomm does not

(continued...)

The Negotiated Rulemaking Committee considered a variety of mechanisms that were intended to achieve the laudable policy goal of efficient use of the spectrum by NVNG MSS systems. The Committee reported, however, that despite the desirability of spectrum efficiency:

> there was not an agreement as to the particular minimum percentage availability selected, whether such a percentage should apply and/or under what circumstances, whether orbit management techniques will be necessary, what standards or measures the FCC should utilize to determine spectrum efficiency, or how the results of such considerations should be used by the Commission in the application process.

Report of Below 1 Ghz LEO Negotiated Rulemaking Committee at 5 ("Committee Report").

The Commission, citing the numerous uncertainties that exist as to the way in which the new NVNG MSS service will develop and the technical configurations that will be employed, concluded that adoption of a spectrum efficiency requirement is not advisable. NPRM at ¶ 9. It noted the Committee's determination that there is adequate spectrum available to accommodate all of the present applicants, and future applicants as well, and stated that "[e]xperience suggests that if a market

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3/ (...continued)
suggest what the Commission should do with such information (i.e., whether it would be used as a comparative criterion in resolving mutual exclusivity), but it does assert that such information would be helpful if the Commission were later to consider adopting specific minimum availability criteria. Id.

for services exists, the providers will maximize their available coverage and potential to meet the market demands accordingly." Id. (footnote omitted). In other words, the Commission determined that such public interest benefits as maximized spectrum efficiency "can be achieved by crafting licensing policies that allow technical flexibility in the provision of NVNG mobile-satellite services." Id. at ¶ 9 n.24.

In its Comments, STARSYS concurred fully with the Commission's decision not to adopt a formal spectrum efficiency standard (STARSYS Comments at 6), and urged the Commission to reaffirm that tentative conclusion in the forthcoming Report and Order. The rigid standard Orbcomm advocates is inappropriate for a nascent satellite service, and could stifle the development of innovative service arrangements that do not provide the stipulated coverage percentages yet satisfy all of the requirements of a particular system's users.[4/]

Orbcomm's alternative request for a demonstration as to spectrum utilization for apparent use as a comparative criterion between system proposals should not be adopted. If comparative hearings are to be used to resolve mutual exclusivity between

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4/ From a technical standpoint, Orbcomm's claim that a two-satellite system utilizes the same interference budget as a twenty-satellite system (see Orbcomm Comments at 17) is clearly a worst-case scenario. It assumes that the two-satellite system will be operating full time, with no orbit maintenance or other control mechanisms. If some form of control is used (whether orbit maintenance or otherwise), authorization of smaller systems will provide a means for increasing the prospects for future entry.

future NVNG MSS system applicants, expected spectrum utilization would likely be but one of many criteria that would be relevant. Until such a time, however, it would be misleading to place inordinate emphasis on the extent of an applicant's proposed usage of spectrum and wasteful to have applicants prepare and submit information that may never be looked at.[5/]

In short, the Commission should adhere to its determination not to adopt a specific spectrum efficiency requirement for the NVNG MSS at this time. In addition, the Commission should make the modifications to its proposed reporting requirements that STARSYS suggested in its Comments. See STARSYS Comments at 6-7.

B. The Commission Should Accord NVNG MSS Licensees A Measure Of Flexibility In Order To Enable The New Service To Grow.

In its comments, VITA suggested that the Commission, in lieu of requiring an applicant to specify a precise number of satellites to be constructed and launched, allow each applicant "to propose a range of satellites, with a minimum of two." VITA Comments at 2. VITA also calls for a change in Proposed Section

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5/ In this last regard, STARSYS disagrees with Orbcomm's assertion that submission of a "spectrum utilization demonstration" would be helpful to the Commission should it

25.142(a)(4) that would allow applicants that propose to construct, launch, and operate five or fewer satellites as part of their NVNG MSS systems to demonstrate their financial qualifications by showing a commitment to construct, launch, and operate only one satellite (while applicants for more than five satellites would have to make the demonstration for two spacecraft). Id. at 3.[6/]

STARSYS believes that VITA's financial qualifications proposal has merit, and encourages the Commission to take this step in the interest of providing a flexible regulatory scheme for NVNG MSS systems.[7/] STARSYS also is generally supportive of VITA's range-of-satellites proposal, although it has a few cautionary comments and suggested modifications that it believes must be included before the proposal can be implemented.

Inasmuch as the NVNG MSS is a new and commercially unproven service, it makes sense to expect that the initial licensees may find with experience that they are able to serve

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[6/] VITA also suggests a related change be made in the Commission's milestone proposal, and advocates the adoption of a softer financial showing requirement for noncommercial, not-for-profit entities such as VITA. See VITA Comments at 3-4.

[7/] In its own Comments, STARSYS asked the Commission to allow the applicants in the initial processing round of NVNG MSS applications to take up to nine months following the release of the report and order in the instant proceeding to make the financial showing to be required by the new rules. See STARSYS Comments at 5. STARSYS asserted that the limited flexibility it was requesting was justified by the fact that

their customers with fewer satellites than originally thought, or that the increase in connectivity that is obtained with 24 as opposed to 12 or 18 satellites is not worth the associated capital cost of placing the higher number of spacecraft into operation. An authorization that allows licensees to build and operate a number of satellites that exceeds a specified minimum (e.g., 2 or 4) but is at or below a specified maximum (e.g., 6, 12, or 24) would incorporate this flexibility into the system license, and still enable the Commission to ensure both technical compatibility with both NVNG MSS and other users, and spectrum efficiency.

STARSYS, however, believes that some changes in the Commission's rule proposals would have to be made before an authorization encompassing a range of satellites could be made. For example, coordination with both government and other NVNG MSS users under Proposed Sections 25.142(b)(2) and (3) would have to be based on the maximum number of satellites covered by the authorization, and financial qualifications would be determined on the basis of two satellites if the maximum number of satellites exceeds five. The milestone schedule, however, would be established on the basis of the minimum number of authorized spacecraft, with a requirement that the licensee comply with the notification provisions of the proposed rules as to the construction of satellites in excess of the minimum number specified in the authorization.

If such changes are made, there is good reason to adopt VITA's range-of-satellites proposal. To the extent, however, that a current applicant (i.e., either STARSYS, VITA or Orbcomm) seeks to increase the number of satellites it has applied for, such an application would have to be treated as a new application and be included in the next processing round of NVNG MSS applications.

C. The Rules Proposed By The Commission Provide Sufficient Opportunities For Future Entry By Additional NVNG MSS System Applicants.

Both dbx and Leo One identify themselves as parties interested in the NVNG MSS service. Leo One states that it intends to offer services over NVNG MSS facilities throughout the world, and dbx anticipates that it will be involved as a purchaser of channels, a reseller, or in some other as yet undetermined capacity. Leo One Comments at 2; dbx Comments at 3.

To protect its stated interest, Leo One asks that the proposed rules be modified to ensure "that spectrum remains available to future [NVNG MSS] entrants, that coordination requirements are strengthened and that international obligations are met." Leo One Comments at 4. dbx, staking a similar claim, offers four "policy proposals" that it states will help the Commission foster competition and multiple entry, and discourage warehousing. It urges the Commission to: (1) assign NVNG MSS licensees the minimum amount of frequency necessary to establish economically viable systems during the first five years of

operations; (2) render NVNG MSS licensees ineligible for assignment of additional spectrum until "sufficient traffic fill" has been demonstrated on the licensee's system; (3) modify the reporting requirement in Proposed Section 25.142(c)(3) to increase the frequency and expand the scope of the reports; and (4) impose an affirmative coordination obligation on existing licensees. dbx Comments at 6-8.

Although STARSYS is enheartened by the expressions of interest in the new NVNG MSS service that were made by Leo One and dbx, it does not believe the Commission should make modifications they suggest.

With regard first to Leo One, the Commission should not modify its proposals in response to Leo One's assertion that "there will be a minimal amount of spectrum left to accommodate international or future domestic entrants." See Leo One Comments at 4. The Negotiated Rulemaking Committee determined that it would be possible for the three pending applicants (STARSYS, VITA, and Orbcomm) to share the frequency bands that are initially to be made available for NVNG MSS services (although a precise plan was not agreed upon); that at least some spectrum is now available (with more spectrum to become available in the future) for additional entrants; and that current and future applicants will have the opportunity to seek additional frequency allocations for the NVNG MSS at upcoming World Administrative Radio Conferences for system and service expansion as the initial systems prove successful in the marketplace. Committee Report at

7-9. Indeed, under the frequency sharing plan advocated by the three NVNG MSS applicants, future systems could not only apply to use the limited portions of the Commission's NVNG MSS allocation (see Report and Order in ET Docket No. 91-280) that is not presently contemplated for assignment to a particular applicant, it would be possible with appropriate coordination to overlay additional systems onto the frequency assignments that are to be made to STARSYS and Orbcomm. Committee Report at 8-9.[8/]

STARSYS believes that the Commission has done all it should to provide opportunities for future entry into the frequencies it has presently allocated for use by NVNG MSS systems. The Commission should not take additional steps to provide for the inchoate possibility of future NVNG MSS entry, whether through the tightening of proposed rule provisions or otherwise. To take such steps at this point, when no additional concrete proposals are before the Commission and the first systems have yet to be placed into operation, would unnecessarily penalize the three applicants that have striven -- through hard work and compromise -- to bring the new service into being.[9/]

[8/] The Commission accepted the Committee's conclusions as to the feasibility of sharing among the existing applicants and the prospects for future entry. See NPRM at ¶ 7.

[9/] As for Leo One's concerns about coordination requirements, STARSYS remains unclear as to exactly what Leo One is suggesting. See Leo One Comments at 4-5. STARSYS does note, however, that the proposed rules obligate NVNG MSS system licensees to coordinate with future entrants, and the Commission's existing rules condition all radio station authorizations governed by Part 25 of the Commission's rules

(continued...)

The four policy proposals advanced by dbx are also unnecessary. dbx has failed to lay any factual predicate to support its first two proposals, which are interrelated. In other words, dbx has failed even to contend that the frequency assignment plan proposed by the three pending applicants is based on the specification of an amount of spectrum that is less than each applicant requires in order to develop an economically viable system -- during its first five years of operation or otherwise. See dbx Comments at 6-7. To the contrary, STARSYS, VITA, and Orbcomm each made compromises from its initially-applied-for frequency requirements in order to achieve a

frequency assignment policies -- both the proposal for initial assignments and the proposal for "traffic fill"-based expansion assignments -- should therefore be rejected. [11/]

Next, there is no basis for dbx's request for the unprecedented level of intrusion that the reporting of utilization information on a daily basis would represent, and to otherwise micromanage the reporting process. See dbx Comments at 8-9. The only reason dbx offers for its proposal is the unsubstantiated fear that licensees will "mislead" the Commission if given the discretion to report actual use. Id. at 8.

STARSYS objects to the Commission's proposal to collect "utilization" information in the first place (see STARSYS

[10/] (...continued)
the spectrum that would be assigned to them. Only the limited amount of spectrum to be assigned to VITA, and the small amount of spectrum to be used for the applicants' narrow band feeder link requirements, would be unavailable for shared use by multiple applicants. STARSYS and Orbcomm have each stated that the spectrum they would use for their communication links could be utilized by additional systems employing the same frequency management scheme, and it is clear from the Committee Report that under the applicants' plan, future applicants can both share much spectrum with the existing applicants and move into spectrum allocated to the NVNG MSS that is not presently specified for use or not yet available. Spectrum cannot be "warehoused" if it is presently available for use by others.

[11/] Even putting aside the overwhelming difficulties of devising objective and uniformly applicable tests for determining the existence of "sufficient traffic fill," the proposal to limit systems' access to spectrum to accommodate customer growth until such growth is documented would inhibit licensees' access to capital markets, and would make it more difficult to market the capacity to customers who want to ensure that the system can handle increased capacity requirements as their service grows. New services such as the NVNG MSS do not need this additional roadblock.

Comments at 6-7), on grounds that such information is commercially sensitive and subject to competitive abuse, and of no real value in and of itself to the Commission. Inasmuch as the Commission's policy is to allow additional entry into the NVNG MSS bands, including into frequencies that may be used by STARSYS, Orbcomm or others, the only use for a company's spectrum utilization rate is to provide information on the status of its customer base -- an inappropriate item for public dissemination. dbx's comments show that STARSYS's fears of competitor abuse of the utilization information that the Commission proposes to collect under Proposed Section 25.142(c)(3) are well founded. The information should not be required.

Finally, STARSYS has no idea what dbx is seeking with its fourth policy proposal. See dbx Comments at 8. Proposed Section 25.142(b)(3) obligates licensees and permittees of NVNG MSS systems to coordinate in good faith with new systems, when so ordered by the Commission. If dbx is suggesting that the coordination be postponed until the new system is authorized, STARSYS does not object (so long as whatever authorization is granted is conditioned on successful completion of coordination).

If, however, dbx is proposing that a second coordination take place after a new entrant is granted a system license, STARSYS objects. All technical problems and spectrum conflicts engendered by the new system will presumably have been resolved through the coordination now envisioned under Proposed Section 25.142(b)(3); any changes necessitating a new

coordination should be considered "major amendments" under Section 25.116 of the Commission's rules or a new application (if post authorization), and require the application to be treated as newly-filed in either case.

STARSYS, the Commission, and many of the other parties who have been involved in developing rules and policies for the NVNG MSS since 1990 have striven to ensure that multiple entry and competition become benchmarks for the new service. STARSYS believes that the rule proposals advanced in the NPRM provide an adequate opportunity to achieve these objectives, and, thus, that the proposals should not be modified in the manners urged by Leo One and dbx.

D. The Commission Should Not Inhibit Licensee Flexibility By Mandating Particular Service Features.

STARSYS agrees with ICSAR that the NVNG MSS offers tremendous potential insofar as search and rescue and disaster response operations are concerned. See ICSAR Comments at 3. To the extent, however, that ICSAR is recommending that the proposed rules be modified to impose particular distress related obligations on all NVNG MSS operators, STARSYS cannot agree.

STARSYS has long touted the flexibility of NVNG MSS system operations and the variety of service applications that can be based on the STARSYS platform. The number of potential applications and the economics thereof to the service providers

depend in large part on the ability of STARSYS to keep space segment costs as low as possible.

The NVNG MSS is not by definition a safety service. If STARSYS has to start building into its core capacity platform requirements of the type sought by ICSAR, at a time when it has no assurance that users of the STARSYS system will want or need such capabilities, the costs for all applications to be provided over the STARSYS system will inevitably rise. STARSYS can provide the type of service that ICSAR describes via an individually-tailored service center, and is willing to work with all customers that have specific requirements to design communications interfaces to meet those needs. It merely does not want to be obligated preemptively to accept core design requirements that its customers do not seek.

E. The Commission Should Not Address The Issue Of U.S. Access To Foreign NVNG MSS Systems In This Proceeding; Such Requests Should Be Handled On A Case-By-Case Basis.

STSI's suggestion that the Commission revise its proposed rules "to ensure that a domestic service utilizing a foreign system has access to the U.S. market through U.S.-based ground facilities . . ." (STSI Comments at 1), irrespective of any merit that it may possess, is beyond the scope of this proceeding. This matter should be resolved on a case-by-case basis with reference to specific proposals.

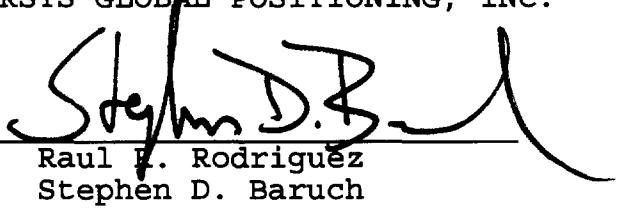
Right now, NVNG MSS operators have the flexibility to operate on a common carrier or noncommon carrier basis, and to be commercial or noncommercial. The existence of these as-yet unexercised options, combined with the newness of the service and the absence of any operating foreign systems, make it difficult for the Commission responsibly to adopt a prophylactic provision of the type advocated by STSI. Accordingly, no change in the rule should be made at this time.

III. CONCLUSION

In accordance with the views expressed by STARSYS above and in its earlier-filed Comments, STARSYS urges the Commission to finalize its rules for the NVNG MSS service as expeditiously as possible, and proceed to license the initial systems.

Respectfully submitted,

STARSYS GLOBAL POSITIONING, INC.

By: 

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May 26, 1993

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CERTIFICATE OF SERVICE

I, Katharine B. Squalls, hereby certify that true and correct copies of the foregoing "Reply Comments of STARSYS Global Positioning, Inc." were sent by first-class postage prepaid mail this 26th day of May 1993 to the following:

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